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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,676	05/21/2001	Frank L. Hall	4718US (00-0316)	1281
24247	7590	09/07/2007	EXAMINER	
TRASK BRITT			HEINRICH, SAMUEL M	
P.O. BOX 2550			ART UNIT	
SALT LAKE CITY, UT 84110			PAPER NUMBER	
			1725	
			NOTIFICATION DATE	
			DELIVERY MODE	
			09/07/2007	
			ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOMail@traskbritt.com

## Office Action Summary

Application No.

09/863,676

Applicant(s)

HALL, FRANK L.

Examiner

Samuel M. Heinrich

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,13 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 15-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s).

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10 sheets</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I in the reply filed on June 21, 2007 is acknowledged.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 3-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1, lines 8 and 9, "scanning the substrate using a laser in the automolding system for irregularities from removing the layer of resist" is not clearly worded and appears to run-on. The dependent claims contain the unclear language of claim 1.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 13, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,352,107 to Oh in view of USPN 6,221,690 to Taniguchi et al and in view of USPN 5,635,671 to Freyman et al and USPN 5,099,101 to Millerick et al and in view of USPN 4,586,822 to Tanimoto.

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Oh describes (e.g., Abstract) the well known use of an automold system for molding semiconductor packages. Taniguchi et al describe (column 6, lines 40-67) the well known process steps of manufacturing a BGA package by using a CO2 laser to remove solder resist and subsequently encapsulating the article with resin in a mold. Freyman et al describe (column 11, lines 31-52) removing excess encapsulant, or degating, which "can be automated as part of the encapsulation process in an automold system". Millerick et al describe (Abstract) laser trimming apparatus which "performs deflashing and degating operations" and describes use of a YAG laser. Tanimoto describes (column 19, lines 49-55) the use of the laser for both detecting and etching.

The use of process steps disclosed by Taniguchi et al, Freyman et al, and Millerick et al in an automold process as described by Oh would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the automold quickly processes the article. The use of the laser for both etching and surface inspection is disclosed by Tanimoto and would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the arrangement provides rapid processing.

Claims 1, 3-6, 13, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP404113663A in view of USPN 5,352,107 to Oh and USPN 6,465,743 to Owens and in view of USPN 5,635,671 to Freyman et al and USPN 5,099,101 to Millerick et al and in view of USPN 4,586,822 to Tanimoto.

JP404113663A describes the well known steps of manufacture of electronic articles by removing burrs with a laser and subsequently sealing the article with resin in

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a transfer molding machine. Oh describes well known automolding of semiconductor packages. Owens describes well known automolding of ball grid array (BGA) packages. Freyman et al describe (column 11, lines 31-52) removing excess encapsulant, or degating, which "can be automated as part of the encapsulation process in an automold system". Millerick et al describe (Abstract) laser trimming apparatus which "performs deflashing and degating operations" and describes use of a YAG laser. Tanimoto describes (column 19, lines 49-55) the use of the laser for both detecting and etching.

The use of process steps disclosed by Freyman et al and Millerick et al in a molding process of JP404113663A and including an automold process as described by Oh and Owens would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the automold quickly processes the article. The use of the laser for both etching and surface inspection is disclosed by Tanimoto and would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the arrangement provides rapid processing.

Freyman et al and Owens disclose BGA processing. Millerick et al disclose a vision system for detecting resist. BGA and vision steps would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the combination of processes provides rapid automated production of known workpieces.

***Response to Arguments***

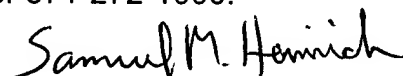
Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Johnson can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Samuel M Heinrich  
Primary Examiner  
Art Unit 1725

SMH